Eastman (Jos.)

Studies and Methods in Supra-Pubic Hysterectomy.

BY JOSEPH EASTMAN, M.D., LL.D.,

OF INDIANAPOLIS, IND.

Reprinted from the North American Practitioner.

The North American Practitioner.

SEPTEMBER, 1893.

STUDIES AND METHODS IN SUPRA-PUBIC HYSTERECTOMY.*

By Joseph Eastman, M.D., LL.D.

Of Indianapolis, Ind.

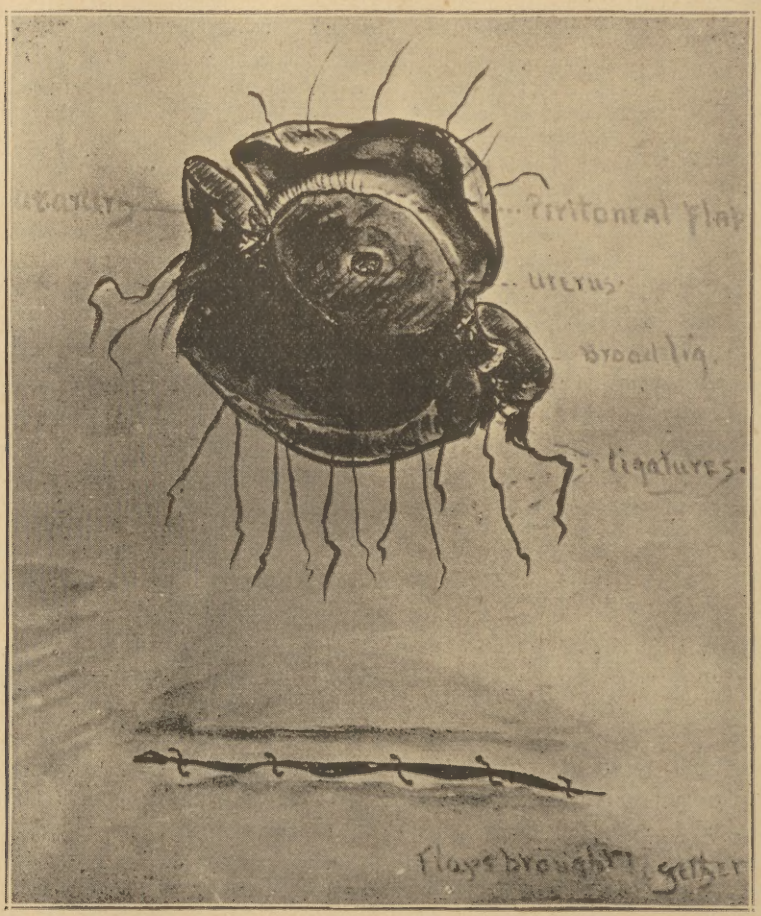
The surgical triumphs of the century have done more to bless humanity than those of all preceding ages. We are anxious to include within its last decade an unchallenged method of removing fibroid tumors; a method that will be equally successful in the hands of the many as the few. My practical studies in supra-pubic hysterectomy began on Feb. 3, 1887. At that time the question open for discussion was, "Shall it be the extra- or intra-peritoneal treatment of the pedicle?' Leaving constricted muscular tissues within the abdomen has been abandoned by nearly all. And now the only question to be settled is, "Shall it be intra-pelvic or abdominal fixation?" The extra-peritoneal method was understood to be the fixation of the stump of the tumor in the lower angle of the abdominal wound. Its ablest and most successful champion was Dr. Bantock, of London. After what I considered mature deliberation as to which one of these methods I would adopt in my first operation, utilizing what little anatomical, pathological, mechanical and surgical sense I could command, I was loth to accept either method as satisfactory to me. I was inclined, however, toward the so-called "Shrœder method," but did not believe it was surgical wisdom to leave constricted muscular tissue within the peritoneal cavity. I believed this could be shut off from the peritoneal cavity and by cutting out all but the vaginal portion of the cervix I could have free drainage by the vagina from every point where ligatures had constricted muscular tissue.

I prepared myself and proceeded to operate in the following manner:

Having made the usual incision extending to the umbilicus, the

*A lecture delivered to the Post-Graduate Medical School of Chicago, July 17, 1893.

tumor turned upward and out of the abdomen, the broad ligaments were clamped and ligated with cobbler's stitch and separated with a cautery; the pedicle was clamped with Eastman's large temporary clamp. A strong elastic ligature was then thrown around the pedicle nearly as low as the vaginal attachment and then it was severed between the clamp and the ligature. Dissecting off the peritoneum and turning it down as we would the skin flap in an amputation before dealing with



the muscles and blood vessels I then severed the mass above the elastic ligature. A conical-shaped piece of tissue was cut out of the stump, the apex pointing toward the os, the base directed upwards and outwards toward the serous membrane.

A cautery iron of blue heat was three times passed through the

cervical canal from above downward for the purpose of destroying mucous membrane and also to assist in draining from the interior of the stump. A dressing forceps was passed after the cautery by the aid of which a rubber tube as large as my little finger was dragged up to within a half inch of the free peritoneal surface. All the muscular tissue of the stump was constricted by a sort of cobbler's stitch which did *not* include the peritoneal flaps but kept three-fourths of an inch from the peritoneal margin. This constriction of the muscular tissue by the cobbler's stitch brought every part of the muscular tissue in close proximity to the end of my rubber drainage tube. Stitches were cut short. The peritoneal flaps were brought together by Lembert's suture.

The peritoneal cavity was cleansed, and a glass drainage tube placed down into Douglas's cul-de-sac. The abdominal wound was closed with silk sutures. There was little shock and the patient made a satisfactory recovery.

In the comment which I made in publishing this case in the Transactions of the State Medical Society for 1887, I said, "It would seem from this report that I used Shrœder's method with certain additions. One of the facts which I should have commented on was that this differed from Shrœder's method in a most essential particular; namely, it was *not* an intra-peritoneal method at all. Every portion of the stump had drainage into the vagina and was absolutely shut off from the peritoneal cavity. I did state, however, that I believed I would use the same method again, including drainage, not only because the result was good in this case, but because I believed where it could be done it was the ideal method. After five hundred abdominal sections for different diseases I am convinced that with slight modifications this method, anatomically considered at least, approximates ideality as near as any with which I am familiar.*

Dr. Marcy, of Boston, does a similar operation, except that he uses his favorite buried suture of kangaroo tendon. Dr. Kelly, of Balti more, has step by step reached a similar operation. Dr. Baer, of Philadelphia, ties the uterine arteries through the broad ligaments, making no attempt to drain the sac or close the pocket he must inevitably have.†

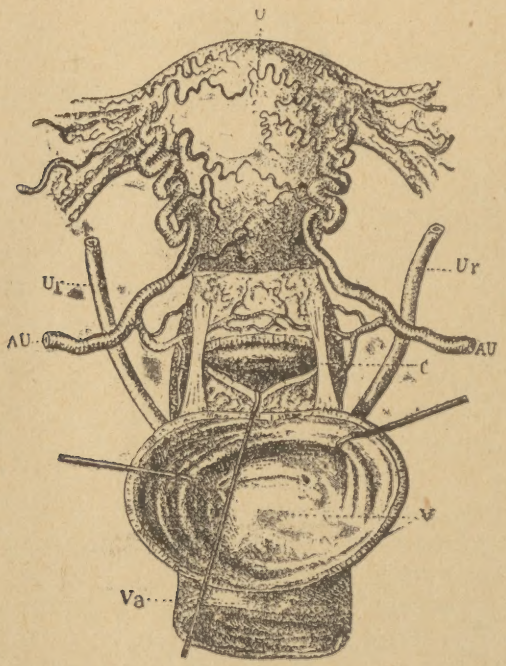
I have had two cases where nodular masses low down on the cervix so hid the arteries that they could not be reached except by going down between the folds of the broad ligament, and three cases where after ligating the arteries, probably on the uterine side of the circular artery, there were a half dozen abnormally enlarged spurting arterial twigs to be ligated in the peri-cervical tissue. Reaching the artery further from the uterus endangers the ureters. (See cut from Pozzi.)

*I have made this operation twenty-seven times.

†If Dr. Baer's operation is faultless his descriptions are faulty. Dr. Mann, of Buffalo, attempting to follow his descriptions had two deaths. Others to my knowledge have had similar experiences.

ANATOMY.

This drawing is taken from Pozzi (Volume I, page 361). U represents the uterus; AU the uterine arteries; V a section of the bladder drawn forwards; Ur. ureters passing behind the uterine arteries diverging as they ascend to the side of the pelvis; C the cervix uteri as seen through a transverse incision of the anterior vaginal cul-de-sac. "The uterine artery springs from the anterior division of the internal iliac and passes downward and inward toward the cervix uteri. It then passes upward between the layers of the broad ligament by the side



Cut No. 2.

of the uterus in an exceedingly tortuous manner to anastomose with the lower branch of the ovarian. Branches pass from it into the substance of the uterus. These are the coiling arteries of the uterus. The vaginal arteries usually spring immediately from the anterior deviation of the internal iliac artery, but sometimes arise from the uterine or middle hemorrhoids. The special branch of the uterine artery to the cervix joins with its fellow at the isthmus to form the circular artery, and with those of the vagina to form the azygos artery of the vagina."

COMMENT ON METHOD.

The ideal operation would seem to be one which patterns after the amputation of the thigh. After tying the broad ligaments and cutting the threads short, suitable flaps are made of peritoneum high up on the tumor. I then ligate the arteries within the folds of the broad ligament, also every other bleeding point, because if the arteries have not been ligated beyond the region of the circular branch there will still be hemorrhage when the cervix is severed. (See cut No. 2.)

The ligatures may be kangaroo tendon, silk-worm gut or even silk. They may be cut short, the cervix removed down to within one-half to three-fourths inch of the external os, the cervix freely dilated and packed with gauze, or a small drainage tube may be used. The peritoneal flaps are then brought over by continuous or interrupted suture, being careful that there is complete sero-serous approximation. To ligate the uterine artery so as to have a bloodless severing of the uterine cervix we must either go near the ureter at a point before the circular artery of the cervix is given off (See cut No. 2) or if we include the circular with the uterine artery proper we have included a considerable amount of connective tissue in our ligature. And here is one of the sources of danger in this operation—the disturbance of the connective tissue at the side of the uterus, which, as every anatomist knows, is richly supplied with lymphatic glands so that the least atom of aseptic material is rapidly carrried into the circulation. I would by preference, as in my first case in February, 1887, expose the uterine artery as much as possible between the folds of the broad ligament before ligating it or if the artery were not readily found, cut boldly through the cervix one side at a time. When the arteries spurt, I would control the hemorrhage with the finger, until it could be seized with the artery forceps and ligate the bare artery with no connective tissue as the surgeon seeks to do while amputating a limb.

COMMENT.

This and all other kinds of operations for fibroid tumors require a thorough mastery of the great surgical principles, together with a practical knowledge of anatomy. At the same time one must be capable of detecting the dislocations of arteries and ureters produced by the development of nodular masses low down in the broad ligaments.

Dr. Mann, of Buffalo, N. Y., in a recent paper read before the American Gynecological Society, says that since the reading of the papers of Drs. Polk and Baer, last year, there has been a tendency to give up the clamp and try intra-peritoneal methods. To my knowledge a half dozen operators gave up the clamp four or five years ago and

have been trying to perfect some better method, but so far as my reading leads me to judge, none of them have tried intra-peritoneal methods. I say this because I want it distinctly understood that while this method which I used in '87 is intra-pelvic it is as much extra-peritoneal as the method by the serre-neud or the fixation of the pedicle in the vagina so successfully practiced by Dr. Byford of Chicago.

ABDOMINAL FIXATION METHOD.

In November, 1888, while in consultation with a professional friend, from whose wife I was about to remove a large fibroid tumor, he suggested that he believed abdominal fixation of the pedicle would give the best results. In order that he should share in the responsibity I accepted his suggestion. This was my first operation by this method and turned out to be one calculated to try my skill in manufacturing a pedicle. Both tubes were eight inches in length and one and one-half inches in diameter. Each tube contained one-half teacup full of pus. Tubes and ovaries were in one common mass in Douglas's pouch. The tumor weighed fifteen pounds. I manufactured a satisfactory pedicle, fixed it in the abdominal wound, and the patient made an excellent recovery. (See cut No. 3.)

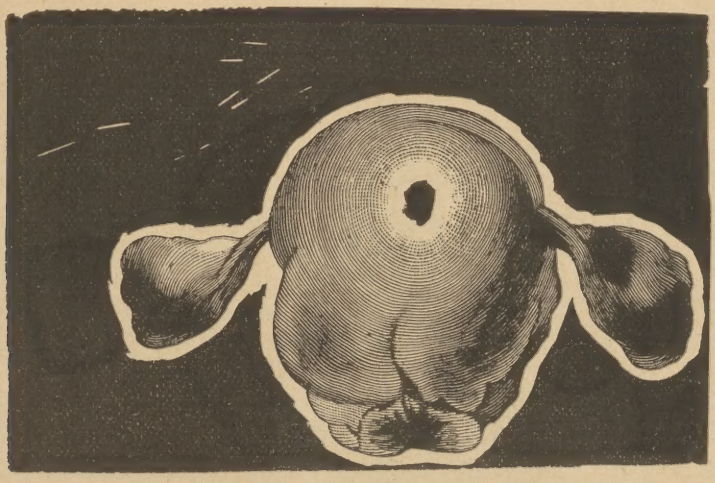
I made a number of operations by this method including one where the diameter of the tumor, after tying off broad ligaments and ovaries where I began to make a pedicle, was six inches. Dissecting down the peritoneum and lifting up the pedicle enabled me to get a satisfactory fixation of the same in the abdominal wound. (Cut No. 3½.)

I speak of this to disarm the criticism of those who constantly insist that the operators, dissatisfied with abdominal fixation do not know how to manufacture a pedicle. I have now fixed pedicle in the abdominal wound sixteen times. In August, 1889, I encountered a case with nodular masses, partially gangrenous, deeply imbedded in the broad ligament. I eneucleated them, manufactured my pedicle, and brought as I believed, most of the pockets from which I had eneucleated the nodules well up to my serre-neud, but could not do so satisfactorily. This patient died and post-mortem examination showed that those pockets below the serre-neud had been the source of infection and septicæmia. This case impressed my mind with the fact that this method was not applicable to all cases.

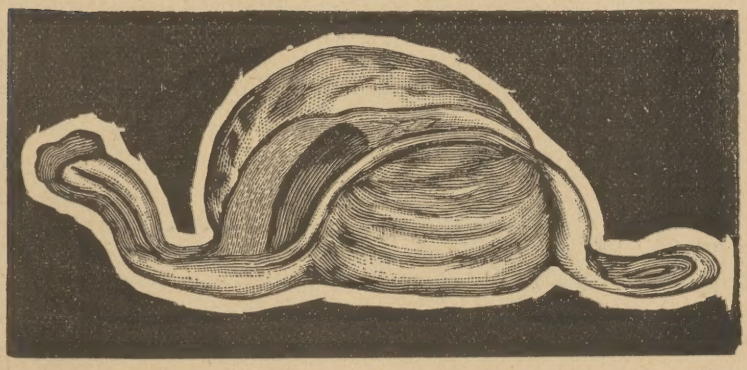
COMMENT.

I concede that able operators are having good results with the serre-neud, and by making a pedicle for every tumor whether it should have one or not. I have had good results with this method and bad results which I could have avoided with a better one I might use a

wire in a case demanding it. I have a serre-neud, tried and trusted, always in my operating room. The method, however, contains two erroneous ideas. First, it is unsurgical; as much so as would be the practice of putting an ecraseur round all the muscles, arteries and bones in performing amputation of a thigh instead of making flaps out of the muscles and skin, ligating the arteries separately, sawing off the



Cut No. 3.



Cut No. 3½.

bones and bringing the flaps together, using suitable drainage. The second is the encumbering the abdominal wound with a pedicle which in most cases can just as well, even better, be dropped.

In a conversation with Dr. Bantock, in his office in London, I learned that this distinguished advocate of fastening the pedicle in the lower angle of the wound had, like myself, found cases of multinodular fibromata where the new growth filled the pelvis, displacing the broad

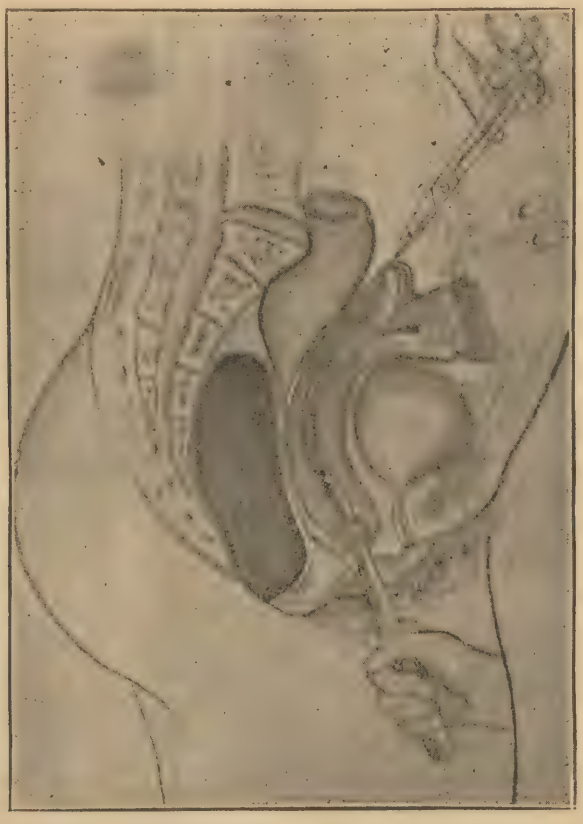
ligaments and disorganizing the uterine cervix to such an extent that no pedicle could be formed. He deals with these cases by eneucleation, packing with gauze and draining through the abdominal wound after having fastened the serous covering of the pelvis to the serous lining of the abdominal wall.

TOTAL EXTIRPATION METHOD.

In my next case I was determined to leave no pedicle to become gangrenous, to slough, to bleed and to furnish septic material to contaminate the peritoneal cavity. Having at that time cut and tied my way up around the cervix in thirteen extirpations of the cancerous uterus, I was confident that I could find my way down, avoiding ureters and bladder after tying off broad ligaments. I used a Simon's retractor in the vagina and lifted the cervix by elevating the floor of Douglas's cul-de-sac. From my familiarity with the parts gained in the cancer operations I found little difficulty in tying, cutting and removing the cervix entire, then bringing the ligatures, which had been left eight inches long, down through the wound in the vagina. I had complete capillary drainage and also added a drainage tube to make sure of a good out-flow of all fluids used in washing the peritoneal cavity. This patient made such an ideal recovery that I was induced to still further perfect the method by having a hysterectomy staff made, which is here shown. (See cuts Nos. 4 and 5.)

One of the main objects in the use of the staff is to so elevate the cervix and Douglas's pouch that the operation can be done more quickly and safely than can otherwise be. It gives us an assurance of what we are doing and how we are doing it that cannot alone be given by the Trendelenberg position. For another reason any method of operating which can be completed in the shortest space of time has many advantages. I had some eight consecutive recoveries by the abdominal fixation method when I turned my attention toward perfecting the technique of what I hoped was a better method. After having such instruments made as I believed would enable me to do the operation as quickly if not more so, and having proven to my satisfaction by eight consecutive recoveries that this method was as successful as the other, I published the same in the *Indiana Medical Journal.* The article was translated into German and published in the "Memorabilien" *Zeitschrift fur rationelle praktische Aerzte*, July, 1890. I was so elated with my results that I said to Dr. Bantock, of London, that I hoped soon to be able to say that we could remove fibroid tumors with the same low rate of mortality that followed our work in ovariotomy. He replied, "It can never be done. The anatomical and pathological conditions are essentially different." A little later by invitation of Dr. August Martin, I demonstrated this method of operating to the

Gynecological Section of the International Medical Congress in Berlin. Prof. Krobak, of Vienna, was present. After the demonstration I gave my staff to Dr. Martin. Since this, Prof. Krobak, of Vienna, is using a similar staff, and his method of operating as described by Dr. Zinke, of Cincinnati, is precisely the same in all its essential principles. His results have been remarkably good.‡



Cut No. 4.

At a meeting of the Southern Gynecological Society at Richmond, Va., Dr. Marcy, of Boston, Dr. Ross, of Toronto, Canada, and Dr. Kelly, of Baltimore, and others, spoke favorably of my endeavors toward the perfection of technique that could be as rapidly carried out as any other method. Each had suggested some little modification or improvement. This encouraged me in the belief that these gentlemen were thinking in the same direction; their minds not of the

‡ Dr. Rufus B. Hall, of Cincinnati, has had seven consecutive recoveries by this method. Dr. C. A. L. Reed, Dr. Ross, of Toronto, Dr. Rohe, of Baltimore, and others, speak favorably of this method.

mimic, too prejudiced against new thought to leave the old paths, but capable of original thought and action along the lines of surgical progress which always converge towards the perfection of technique and simplicity in operating. The greatest objection to total extirpation of the cervix is the possibility of vaginal infection, notwithstanding we may have used every precaution in rendering this tube aseptic. Our manipulations of the tumor sometimes cause to pour out a quantity of poisonous material through the cervix into the vagina to come in contract with the finger or ligature while stitching around the cervix. This may be avoided by packing the cervix with iodoform gauze and closing os with suture before opening the abdomen.

I have performed hysterectomy, removing the cervix entire sixty-seven times, and my results so far have been best by this method.

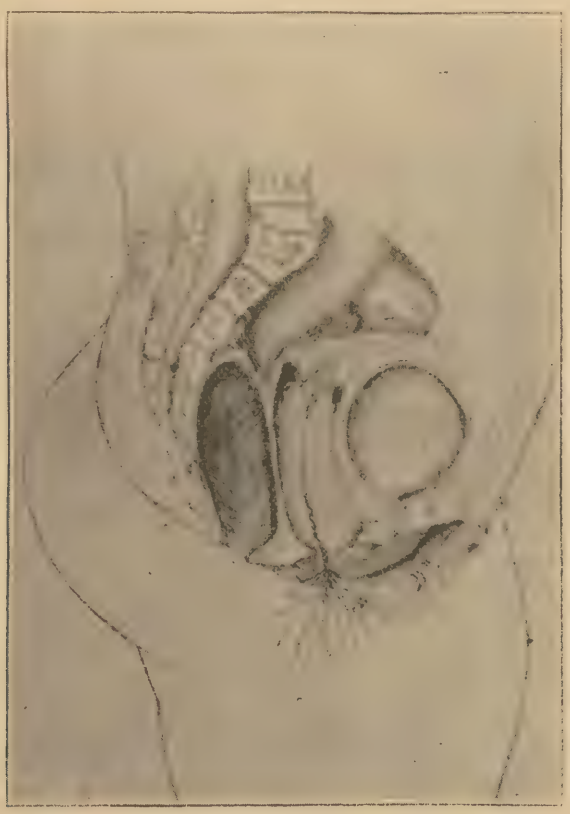
VAGINAL DRAINAGE.

At times I have been dissatisfied with the removal of the entire cervix and vaginal drainage mostly because of the great dangers of infection from the vagina. I am now fairly well satisfied that my original way of using a glass tube so constructed at the upper end as to prevent the possibility of its becoming closed, and with no openings of the tube below the point where it is constricted by the vaginal vault, is a good method of drainage. This enables us to pour large quantities of hot water into the peritoneal cavity, warm up the intestines which are often beginning to be distended with gas from exposure to the air, with the assurance that the water will be freely discharged through the large tube fixed in the vaginal wound. I believe it almost criminal to publish to the world that drainage can be dispensed with in supra-pubic hysterectomy. While it may be done when the abdomen is only open for a short time, someone else of less experience leaves the chilly bowels following a tedious operation without their being warmed up by the wash-out; serum is poured out into the peritoneal cavity, the chilled peritoneal surface not being able to absorb it again, and serious consequences ensue.

This I believe to be a vital point. Many, many deaths have occurred, the operator faulting the method used in treating the pedicle when the fault was in the length of time consumed in the operation, and not counteracting its direful results upon the peritoneum by thorough flushing with hot water in the peritoneal cavity. These operations are the most taking of any I know of on the strength of the operator. Any operation which uses up the strength of the operator has a probability of having a similar effect upon the patient.

AFTER TREATMENT.

In no other abdominal operation is it so highly important to carry out the very best methods in the after treatment of the case. There has been a great deal of discussion whether or not to give opiates to relieve the pain in the abdomen following cœliotomy. In my last hundred cases I have been acting upon the idea that this pain was due to distension of the intestines with gas (except what came from the



Cut No. 5.

constriction of the serre-neud in cases where it was used). I had often seen exposed intestines begin to show that gas was accumulating even before the abdomen was closed. This confirmed my belief that nearly all the pain following abdominal section was due to gas in the intestines. It has been suggested that to relieve this, saline purgatives should be given as soon as the stomach will retain them and in that way relieve the pain. Following the shock of hysterectomy there is nothing which has such a tonic effect upon the nerves dis

tributed to the intestinal tract as nux vomica and the preparations of strychnia.

Prof. Hare, of Philadelphia, did a great service to the profession in his address before the American Medical Association, at the last meeting, by calling attention to the large dose of strychnia borne with great advantage in cases of surgical shock, illustrating that as large doses of morphine are counteracted by intense pain, so the effect of large doses of strychnia are counteracted by the condition of the nerve cells during shock. I give strychnia or nux vomica in ordinary doses previous to all abdominal operations, especially cases of supra-pubic hysterectomy. Immediately after the operation I begin with five drops of Squibb's tincture of nux vomica, having it repeated every hour unless there should be free evacuation from the bowels accompanied by a considerable amount of flatus. This is aided by large enemata of salt water repeated at intervals of four hours. Where these salt water enemata are retained I think some of it is absorbed and has a decided beneficial effect in priming the pumps of secretion, excretion and elimination. With the nux vomica and the enema the bowels are frequently moved during the first twelve hours. At all events, the nux vomica needs only to be supplemented with a small amount of saline cathartics, inasmuch as we have, by the nux vomica, counteracted at the very beginning the tendency to intestinal paresis and maintain that effect by continuing the same.

I have given the advantages and disadvantages of three methods for the reason that they are the only methods with which I have had any considerable experience.

The sum total of individual experiences will utimately reach the truth. From my studies in this direction I would draw the the following conclusions: *First.* That in treating sub-serous tumors where a pedicle containing little muscular tissue can be made above the uterus, leaving ovaries and tubes undisturbed, the pedicle may be dropped as in ovariotomy. *Second.* Where a pedicle contains so much muscular tissue that ligatures cannot be incapsulated but may be cast off, it is bad surgery to leave such pedicle within the peritoneal cavity. *Third.* Where the neck of the uterus remains small, abdomen not too fat after the ovaries and tubes have been tied off, the pedicle may be fastened in the lower angle of the wound and give satisfactory results. *Fourth.* The intra-pelvic method which I have described and first used in '87, or some of its modifications by Marcy, Kelly, Baer and others, will in the hands of expert operators be a safe method. *Fifth.* Where the neck of the uterus is so deformed by nodular growths that it is inexpedient to make a pedicle out of the same, where cavities from which nodular masses have been enucleated or pus cavities cannot be drained into the vagina, where the abdomen is very fat, extirpation

according to the method which I have described and the technique of which I have perfected, including the use of my hysterectomy staff gives results to me as satisfactory as I have been able to obtain in any surgical operation, and would seem to leave little to be desired by way of treating a class of fibroids heretofore defying successful management by our best surgical methods.

My experience with fibroid tumors has been large enough to include some very difficult cases (See cuts Nos. 6, 7, 8.)

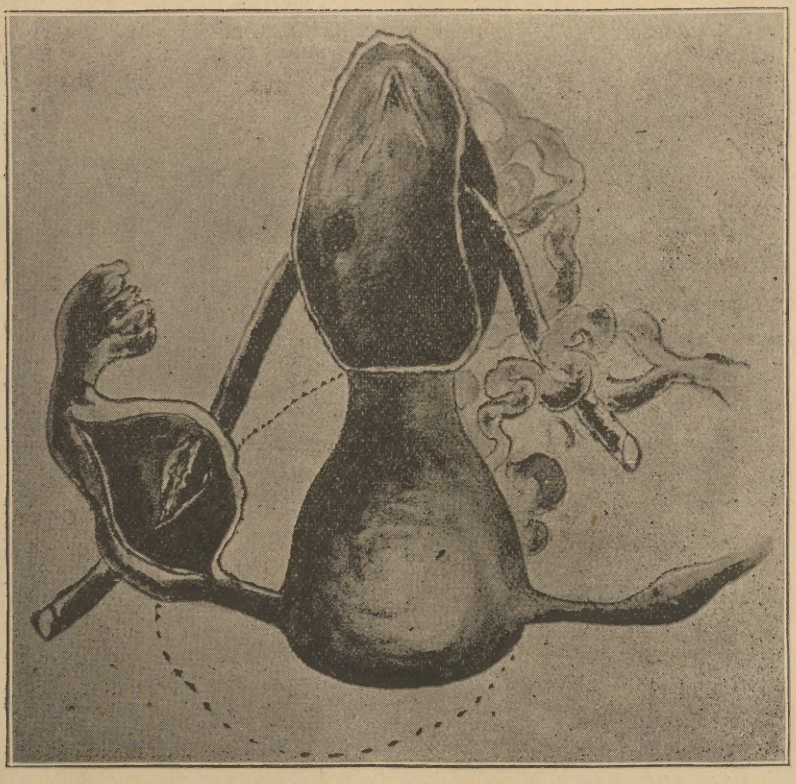
These cuts represent illustrative cases. In the one (See cut No. 6) the tumor was entirely intra-ligamentous, completely filling the pelvis, extending much below the lowest plane of the external os. The second represents a pendulous fibroid weighing sixty pounds. These cuts are presented for the purpose of asking how one could first ligate the uterine arteries according to Baer's suggestion or how a pedicle could reasonably be made and fixed in the lower angle of the abdominal wound. Cut No. 8 represents an immense pus tube and ureter emptying its contents into it and thus making a small bladder or urinary reservoir. Is it possible that these ugly tumors are only to be found in the rough and rowdy West, and that in the smoother society of our Eastern cities all the tumors have small necks and arteries easily reached by ligature? Until some of these questions are answered I think some of us are justified in withholding our per cent. of recoveries.

There are two kinds of operators. The one is so impressed with the deaths which have followed his work that his large list of recoveries to him seem almost forgotten. The other is so impressed with his list of recoveries that they become the one glaring feature in nearly all his reports, and he seems to have forgotten his list of deaths.

I am not anxious that my name shall be attached to any particular method. I would prefer to be a man with no method, submitting to the law which the peculiarities of each case shall make. I would not care to contribute to the perfection of a method which could only be successful in the hands of a few. I am sincerely desirous of doing all in my power toward the perfection of such methods as shall be successful in the hands of the many. I am encouraged in my belief that when the teachings shall have become obsolete that fibroid tumors are comparatively free from danger, give little or no trouble after the menopause, we shall deal with small tumors by removal of the uterine appendages and with larger ones by surgical methods, and have as low rate of mortality as we now have in removing ovarian tumors. We cannot hope to reach this much desired Mecca in our surgical pilgrimage if we stick to some buckram rule in operating, ignoring the fact that the

Cut No. 7.

Cut No. 6.



Cut No. 8.

peculiarities of the tumor or pedicle should determine our surgical methods of treating the same.

Fortunate is he who can comprehend the anatomical and pathological bearings in a given case, use good judgment in selecting his method, at every step of the operation, and in each and every emergency. The successful hysterectomist is both born and made, and the surgical type of a man is not to be found thirteen times in a dozen.